

KRUGLIKOV, S.S.; KUDRYAVTSEV, N.T.; ANTONOV, A.Ya.; DRIBINSKIY, A.V.

Use of a rotating disk electrode for the study of the mechanism of
surface leveling in electrodeposition of metals. Trudy MKHTI no.44:
74-79 '64. (MIRA 18:1)

KUDRYAVTSEV, N.T.; TSUPAK, T.Ye.; PSHILUSSKI, Ya.B.

Electrolytic deposition of nickel from sulfate-chloride solutions in
the presence of aminoacetic acid. Trudy MKHTI no.44:80-85 '64.
(MIRA 18:1)

KUDRYAVTSEV, N.T.; SMIRNOVA, T.G.

Electrodeposition of iron from sulfate electrolytes in the presence of
aminoacetic acid-glycocol. Trudy MKHTI no.44:86-90 '64.

(MIRA 18:1)
Electrolytic deposition of iron-chromium alloys. Ibid.:102-107

KUDRYAVTSEV, N.T.; FIRGER, S.M.; DOKINA, N.N.

Electrodeposition of a cadmium-nickel alloy. Trudy MKHTI no.44:91-95
'64. (MIRA 18:1)

KUDRYAVTSEV, N.T.; TSUPAK, T.Ye.

Investigating the conditions of the electrolytic production of nickel-chromium alloys from solutions of metal sulfates in the presence of aminoacetic acid. Trudy MKHTI no.44:96-101 '64.

(MIRA 18:1)

S/0153/64/007/001/0004/0089

ACCESSION NR: AP4037230

AUTHOR: Kudryavtsev, N. T.; Tsupak, T. Ye.

TITLE: Investigation of conditions for obtaining a nickel-chromium alloy electrolytically from sulfate solutions of the metals in the presence of glycine.

SOURCE: Izvuz. Khimiya i khimicheskaya tekhnologiya, v. 7, no. 1, 1964, 84-89

TOPIC TAGS: nickel chromium alloy, nickel chromium electroplating, electroplating condition, chromium glycine complex, nickel sulfate, glycine, electrolyte concentration, current yield, pitting, pitting prevention, protective decorative coating, ductility, brittleness, nonmetallic inclusion, corrosion protection, microhardness

ABSTRACT: The conditions for electroplating Ni-Cr alloys from solutions containing trivalent chromium complexed with glycine, nickel sulfate and free glycine were studied in detail. Increasing the nickel concentration (Cr = 1 gm. equiv/l.) at room temperature reduced the Cr content of the alloy to about 7% and increasing chromium concentration (Ni = 1 gm. equiv/l.) to 2 gm. equiv/l. increased the Cr content to about 17%. Factors which increase the Cr in the alloy (raising the relative Cr concentration in the electrolyte, lowering pH and temperature of the

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ACCESSION NR: AP4037230

electrolyte) lower the current yield. The higher the nickel and chromium concentrations the lesser the effects of these factors. Increasing glycine in the complex from Cr.4G1H to Cr.6G1H has little effect. The optimum conditions for electroplating a Ni-Cr alloy containing 10-16% Cr (17-30% current yield) are: Cr as Cr.4G1H--2 gm.equiv./l; Ni--2 gm.equiv./l; free glycine--0.27 gm.equiv./l; pH 2.5-2.7; electrolyte temperature--30-40C; current density--15-30 amp/dm²; graphite anode enclosed in ceramic diaphragm; anolyte--10% H₂SO₄; and 0.05 gm/l sodium lauryl sulfate to prevent pitting. These electrodeposits up to 3 microns in thickness can be used as protective decorative coatings without subsequent polishing in place of chromium platings. The 10-16% chromium-containing Ni-Cr deposits of 5 microns thickness are semi-bright, 10 microns deposits are gray but still ductile; and 20 micron deposits are brittle due to nonmetallic inclusions. These 5 micron deposits give corrosion protection equivalent to pure nickel coatings. Their microhardness is 350-450 kg/mm². Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I. Mendeleeva
Kafedra elektrokhimii. (Moscow Chemical Technological Institute Electrochemical Department)

Card 2/3

ACCESSION NR: AP4037230

SUBMITTED: 11Mar63

ENCL: 00

SUB CODE: MM

NO REF SOV: 005

OTHER: 007

Card

3/3

MIKH/ YLOV, N.I.; KUDRYAVTSEV, N.T.

Effect of the additions of foreign cations on the formation
of metallic sponges. Zhur. prikl. khim. 37 no. 4:806-812
Ap '64. (MIRA 17:5)

NIKITYAVINOV, N.T.; MELNIKOVA, N.M.; ANDRUSIN, V.M.

Some regularities of the cathodic process in the electrodeposition of iron-zinc alloy from a boron hydrofluoric electrolyte. Zhur. prikl. khim. 37 no.9:1946-1951 S 161.

(MIRA 17:10)

MIKHAYLOV, N.I.; KUDRYAVTSEV, N.T.

Electrodes for determining the limiting current in the
electrodeposition of iron. Zhur. prikl. khim. 37 no.12:
2615-2619 D '64. (MIRA 18:3)

KUDRYAVTSEV, N.T.; POTAPOV, I.I.; SOROKINA, N.G.

Investigating the electrolytic deposition of chromium from
solutions of its trivalent compounds. Zashch. met. 1 no.3:
304-307 My-Je '65. (MIRA 18:8)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D.I.
Mendel'eyeva.

L 3783-66 EWT(m)/EWP(1)/EWP(t)/EWP(b) JD

ACCESSION: AP5014136

UR/0365/65/000/003/0308/0313

621.357.7

669.73

AUTHOR: Fatkh Alla, M. I.; Kudryavtsev, N. T.; Tyutina, K. M.

TITLE: Electrolytic cadmium plating from non-cyanic complex electrolytes

SOURCE: Zashchita metallov, v. 1, no. 3, 1965, 308-313

TOPIC TAGS: cadmium, metal plating, electroplating, electrolyte

ABSTRACT: Thirteen non-cyanic electrolytes for cadmium plating are compared for quality of cathodic deposition, yield with respect to current, cathode polarization and scatterig power. The compositions of these electrolytes and electrolysis conditions are shown in table 1 of the Enclosure. The highest uniformity in deposition thickness was obtained when electrolytes based on α -aminoacetic acid (glycocoll) or Trilon "B" are used or when the coating is produced by ammoniate electrolytes. Cathode polarization curves are given for the various electrolytes tested. The curves for electrolytes No. 5, 7 and 12 show more of an inclination toward the x-axis (cathode potential) than do the others. The cathode potentials in electrolytes based on Trilon "B" come close to the cadmium electrodeposition potentials of cyanic electrolytes. Cadmium electrodeposition from electrolyte No. 7 takes place

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ACCESSION NR: AP5014136

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at higher positive potentials than in cyanic solutions, but cathode polarization is high, reaching about 180 mv at a current density of 1 a/dm². Cadmium deposition from ammoniate electrolytes takes place at a considerably weaker cathode polarization, about 100 mv at 1 a/dm². If the metal yield with respect to current increases with current density, distribution of the metal on the cathode surface becomes less uniform and vice versa. The yield with respect to current falls sharply as the current density is increased in a Trilon electrolyte, which considerably improves the distribution of metal on the cathode surface at current densities greater than 1 a/dm². Curves for pH as a function of the quantity of acid or alkali added to the solution show that electrolytes No. 5, 7 and 12 have excellent buffer properties. A new electrolyte is developed based on glyccoll (no. 7 in table 1 of the Enclosure). This solution produces fine-grained uniformly thick cadmium coatings. The scattering power of this new electrolyte is considerably better than that of acid solutions, somewhat better than that of ammoniate electrolytes and close to that of cyanic solutions. Orig. art. has: 6 figures, 1 table.

ASSOCIATION: Khimiko-tekhnologicheskii institut im. D. I. Mendeleeva (Chemical Engineering Institute)

SUBMITTED: 03Nov64 44.55

NO REF SOV: 008

ENCL: 01

OTHER: 000

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Card 2/3

L 3783-66

ACCESSION NR: AP5014136

ENCLOSURE: 01

TABLE 1

Components (g/l) and
conditions of elec-
trolysis

Electrolyte No.

	1	2	3	4	5	6	7	8	9	10	11	12	13
CdSO ₄ · ¹ / ₂ H ₂ O	64	100	—	—	—	—	—	—	—	128	04	—	48
Cd(BF ₄) ₂	—	—	143	—	—	—	—	—	—	—	—	—	—
CdCl ₂ ·2 ¹ / ₂ H ₂ O	—	—	—	32	40	16	40	80	40	—	—	32	—
CdO	—	—	—	—	—	—	—	—	—	—	—	—	—
HBF ₄	—	—	35	—	—	—	—	—	—	—	—	—	—
Al ₂ (SO ₄) ₃ ·18H ₂ O	28	—	—	—	—	—	—	—	—	—	—	—	—
H ₂ BO ₃	—	20	—	—	20	20	—	—	—	—	—	—	—
(NH ₄) ₂ SO ₄	33	—	—	—	300	—	—	—	—	—	—	—	—
NH ₄ F	—	—	—	—	—	—	—	—	—	—	—	—	—
NH ₄ Cl	—	—	—	300	—	—	—	—	—	—	—	—	—
Glycocoli	—	—	—	—	—	200	—	180	180	—	—	—	—
Trilon "B"	—	—	—	—	—	—	110	—	—	—	—	—	—
Ethylene diamine (basic)	—	—	—	—	—	—	—	—	—	375	112	280	75
Monoethanol amine (75%) ml/l	—	—	—	—	—	—	—	400	400	—	—	—	—
KOH	—	—	—	—	—	—	—	—	—	—	—	—	—
NaOH	—	—	—	—	—	—	—	—	—	—	40	—	20
NaCl	—	—	30	—	—	—	58	—	—	—	—	58	—
Thiourea	—	—	—	2,5	2,5	2,5	2,5	—	—	—	—	—	—
Joiner's glue	0,5	1	1	—	1	1	1	1	1	—	—	—	—
Dextrin	—	—	—	10	—	—	—	—	—	—	—	—	—
pH	4	4	2	7-8	7-8	7-8	7-8	8-9	8-9	8-9	11	11	4-5
Current density	1	1	3	0,7	0,7	0,5	1	1	1	1	10	10	10 a/dm ²

Card 3/3

1 (3776-95) c.T(m)/EeE(c)/EeE(i)/EeE(d)/EeE(t)/EeE(b) Ju/ab

ACCESSION NR: AP5017740

UR/0365/65/001/004/0353/0358
621.357.7

AUTHOR: Kudryavtsev, N. T., Smirnova, T. G.

TITLE: Electrolytic coatings made of Fe-Cr alloy

SOURCE: Zashchita metallov, v. 1, no. 4, 1965, 353-358

TOPIC TAGS: iron containing alloy, chromium containing alloy, electrolytic coating, corrosion resistance, oxidation resistance, galvanic coating, cathode residue, glycine, buffer property, electrolyte solution, complex cation

ABSTRACT: Metallurgically obtained Fe-Cr alloys containing 10 to 30% Cr are known under the name of stainless chrome steels. They are highly resistant to oxidation and corrosion and are therefore widely used in industry. Thus, it may be assumed that similar alloys obtained by the galvanic method would also be highly corrosion-resistant and find practical application. Until recently experiments to verify this assumption had been unsuccessful, the cathode residue thus obtained being of poor quality. The impasse was broken, however, by Ya. B. Ishilusski (Dissertation, Mendeleyev Institute of Chemical Technology, Moscow,

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ACCESSION NR: AP5017740

1961), who had first shown that the addition of aminoacetic acid (glycine) to the solution of chromium salt greatly improves the quality of the deposit by enhancing the buffer properties of the electrolyte and leading to the formation of complex ions of chromium with glycine. In acid solutions chromium reacts with glycine to form complex cations of the $[\text{Cr}(\text{Gly})_n]^{3+}$ type, where $n = 3, 4, 5, 6$, etc., depending on the ratio between components. In this connection, the authors investigated the buffer properties of solutions of the sulfate salts of chromium and iron in the presence of glycine, by the method of potentiometric titration. The experiments revealed that the following conditions may be recommended for precipitating Fe-Cr alloy. Composition of electrolyte (g/liter): $\text{Cr}_2(\text{SO}_4)_3 \cdot 5\text{H}_2\text{O} - 160$, $\text{FeSO}_4 \cdot 7\text{H}_2\text{O} - 30-50$, $\text{NH}_2\text{CH}_2\text{COOH} - 150$, $\text{H}_2\text{SO}_4 - 0.5$; temperature 20°C ; cathode current density $7-12 \text{ a/decimeter}$. The amount of glycine added corresponds to the formation of the complex ion $[\text{Cr}(\text{Gly})_3]^{3+}$; H_2SO_4 acid is added to the electrolyte to prevent the hydrolysis of the trivalent salts of iron that form during the oxidation of the divalent Fe ions by the oxygen of the air. The specified electrolyte yields bright, level, thin Fe-Cr alloy coatings of Fe-Cr alloy containing 27 to 35% Cr. The microhardness of this alloy ranges from 550 to 600 kg/mm^2 . Corrosion tests in the mist of 3% solution of common salt at 30°C showed that Fe-Cr coatings are more corrosion-

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ACCESSION NR: AP5017740

resistant than pure electrolytic iron. Orig. art. has: 5 figures.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I.
Mendeleeva (Moscow Institute of Chemical Technology)

SUBMITTED: 11Feb65

ENCL: 00

SUB CODE: MM,GC

NO REF SOV: 003

OTHER: 002

Card *llc* 3/3

1-18100-101 247(11)/SWP(11)/SWP(11)---SWP(11) 35

ACCESSION NR: AP5010989

UR/0153/65/003/001/0099/0103

AUTHOR: Fatkh Alla, M. I.; Tyutina, K. M.; Kudryavtsev, N. T.

TITLE: Effect of pH on the cathode process during cadmium plating from sulfatoammoniate electrolytes

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 8, no. 1, 1965, 99-103

TOPIC TAGS: complex salt, sulfatoammoniate electrolyte, cathode process, cathode polarization, plating

ABSTRACT: Water soluble complex salts of aminocadmium (II) sulfate $[Cd(NH_3)_2SO_4]$ and aminocadmium (II) fluoride $[Cd(NH_3)_2F_2]$ were used in a study on the effect of pH on quality of cathode cadmium plating, cathode polarization, and scattering current. The aminocadmium (II) sulfate complex was prepared by dissolving CdO in an aqueous solution of $(NH_4)SO_4$. It was found potentiometrically that the aminocadmium (II) sulfate complex is stable in the pH range from 7 to 8 and it decomposes at pH less than 6. It was found that the electrolytes contained cations of $[Cd(NH_3)_n]^{2+}$, where $n = 1$ to 6. At pH less than 6 the obtained cadmium platings are

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ACCESSION NR: AP5010989

coarsely crystalline and ununiformly dispersed and the cathode polarization is low. In the pH range from 7 to 9 the cathode polarization is substantially higher and obtained cadmium platings are light, dense, fine-grained, and uniform in thickness. Orig. art. has: 7 figures.

ASSOCIATION: Moskovskiy Khimiko-Tekhnologicheskii Institut im. D. I. Mendeleeva;
(Moscow Institute of Chemical Technology)

SUBMITTED: 06Jun64

ENCL: 00

SUB CODE: HM, GC

NO REF SOV: 006

OTHER: 002

Card 2/2

BEK, R.Yu.; NECHAYEV, Ye.A.; KUDRYAVTSEV, N.T.

Cathodic electrodeposition of silver. Zhur. fiz. khim. 39 no.3:628-630
Mr '65. (MIRA 18:7)

1. Khimiko-tehnologicheskii institut imeni Mendeleeva, Moskva.

EW P(z)/EW T(m)/EW G(m)/EW P(b)/EW P(t)/T Pac IJP(c) RH/JD/RW

ACCESSION NR: AP5011466

UR/0076/65/039/004/08"0/0876

AUTHOR: Kudryavtsov, N. T.; Golovchanskaya, R. G.; Baraboshkina, N. K.; Kosmodami-
anskaya, L. V.

TITLE: Electrodeposition of titanium-iron and titanium-nickel alloys from aqueous solutions

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 4, 1965, 870-876

TOPIC TAGS: electroplating, alloy deposition, titanium alloy, iron alloy, nickel alloy, current efficiency, metatitanate electrolyte

ABSTRACT: Ti-Fe alloys of varying composition were deposited from alkaline solutions of sodium and iron metatitanate. The cathodes used were made of platinum, copper, brass, nickel, or steel. Armco plates served as the cathodes, and the alloy was deposited at 1-45 A/dm² at 20, 50, and 75°C. The nickel-titanium alloys were deposited in hydrofluoric acid and fluoboric acid solutions; the latter were found to be preferable. To study the relative discharge rates of the ions, the cathodic potentials were measured in the course of separate and joint deposition of the metals. The influence of concentration of the salts in the electrolyte, current density, stirring, and other factors on the composition and quality of the deposits, current efficiency, and

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ACCESSION NR: AP5011466

cathodic polarization was studied. In the case of Ti-Fe alloys, coatings containing up to 97% Ti were obtained. The current efficiency of the metals depends substantially on the proportion of Ti in the alloy: the higher the Ti, the lower the current efficiency. Deposits containing 20-40% Ti deposit with current efficiencies of 20 to 30%. In the case of Ni-Ti alloys, coatings containing up to 6% Ti were obtained. The current efficiency remains practically unchanged and amounts to 36-40%. An explanation is offered for the inhibition of the discharge of Fe and Ni ions during the codeposition of each with titanium. "The x-ray structural analyses were carried out in the Laboratoriya stroeniya poverkhnostnykh sloev Instituta fizicheskoy khimii AN SSSR (Laboratory for the Structure of Surface Layers, Institute of Physical Chemistry, AN SSSR) under the guidance of Yu. M. Polukarov and V.P. Moiseyev." Orig. art. has: 5 figures and 3 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D.I. Mendeleyeva (Moscow Chemical Engineering Institute)

SUBMITTED: 03Aug63

ENCL: 00 SUB CODE: MM

NO REF SOV: 304

OTHER: 000

Card 2/27B

ACC NR: AP7002146

(N)

SOURCE CODE: UR/0153/66/009/05/0791/0793

AUTHOR: Kudryavtsev, N. T.; Golovchanskaya, R. G.; Savost'yanova, V. M.

ORG: Moscow Chemico-technological Institute im. D. I. Mendeleev (Moskovskiy khimiko-tekhnologicheskii institut)

TITLE: Cathodic process in electrodeposition of cobalt-titanium alloys in hydrofluoboric electrolytes

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 9, no. 5, 1966, 791-793

TOPIC TAGS: metal electrodeposition, cobalt^{alloy} titanium alloy, electrodeposition, cobalt titanium alloy, electrolyte, cathode, corrosion resistance, metal coating

ABSTRACT: The effect of pH, temperature, and current density on the composition and quality of deposits and the yield of cobalt-titanium alloy obtained by electrolysis in a hydrofluoboric electrolyte has been investigated. It was found that at an electrolyte temperature of about 20C and a pH of 1.7, a current density increase from 1.5 to 20 a/dm² resulted in the increase of titanium content in the alloy from 4 to 10%. However, the quality of deposits was poorer and the yield of alloy dropped. Temperature increase to 50C resulted in a decrease of titanium content to 2% and poorer deposit quality. An increase in pH from 1.7 to 3.1 brought about an increase of titanium content and yield of alloy but the deposits were spongy and contained titanium hydroxide. The best quality of deposits, containing

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UDC: 66.062.662:542.97

ACC NR: AP7002146

from 5 to 10% titanium, was obtained in an electrolyte with a pH of 1.7—2.0 and a current density of 1.5—10 a/dm². Cobalt-titanium coating has a higher corrosion resistance than that of pure cobalt coating. The structure of the cobalt-titanium alloy consists of a substitution-type solid solution of titanium in cobalt. Orig. art. has: 4 figures.

SUB CODE: 13, 07/ SUBM DATE: 06Jul64/ ORIG REF: 004

Cord 2/2

L. OR334-67 WPT(m)/WPT(t)/ETI TJP(c) JD

ACC NR: AP6030631

SOURCE CODE: UR/0413/66/000/016/0127/0128

INVENTOR: Kudryavtsev, N. T.; Tyutina, K. M.; Fatkh, A. M. I.

ORG: none

TITLE: Method of electrolytic deposition of tin-cadmium alloy. Class 48,
No. 185173 [announced by Moscow Chemical Technological Institute im. D. I.
Mendelyev (Moskovskiy khimiko-tehnologicheskii institut im. D. I. Mendeleyeva)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966,
127-128

TOPIC TAGS: electrolytic deposition, tin alloy, cadmium alloy

ABSTRACT: An Author Certificate has been issued for a method of electrolytic
deposition of tin-cadmium alloy at room temperature. To increase the dispersive
power of the electrolyte and to obtain dense depositions of fine-crystalline structure,
the process is carried out in a solution containing: 0.3--0.4 H tin chloride, 0.5 H
cadmium chloride, 1.2 H ammonium fluoride, 1 g/l carpenter's glue, and 10 g/l
phenol at pH 2.5--4.0 and a 1.0--2.0 amp/dm² current density. [Translation] [NT]
SUB CODE: 11/ SUBM DATE: 05 May 64/

Card 1/1

UDC: 621.357.7:669.6'73

1. 10/16/66 ENT(S) TWP(S) / EWP(R) / T / EWP(t) / ETI TWP(S) ES 10/66
ACC NR: AT6024965 (H) SOURCE CODE: UR/0000/65/000/000/0003/0017

AUTHOR: Kudryavtsev, N. T.; Plaskoyev, Ye. V.; Ryazanova, L. M.

ORG: none

TITLE: Electrolytic preparation of finely divided lead and zinc powders

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Zashchitnyye metalli-cheskiye i oksidnyye pokrytiya, korroziya metallov i issledovaniya v oblasti elektro-khimii (Protective metallic and oxide coatings, corrosion of metals, and studies in electrochemistry). Moscow, Nauka, 1965, 8-17

TOPIC TAGS: electrodeposition, zinc, lead, metal powder

ABSTRACT: Finely divided lead and zinc powders were prepared electrolytically from alkaline electrolytes. The effect of metal concentration in the electrolyte, cathodic current density, cathode material, and organic admixtures on the current efficiency of the metal and the dispersity of the cathodic deposits was studied. The effect of various inhibitors on the degree of oxidation of the finished products was determined. The experiments showed that as the zinc concentration increases from 0.1 to 0.3 N, the current densities being the same, the current efficiency of the powder rises, but the inhomogeneity in the size distribution of the powder particles increases. The zinc powder was found to be less homogeneous than the lead powder in particle size; its particles were coarser and had a branched dendritic shape. A certain increase in the

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ACC NR: AT6024965

dispersity and homogeneity of the zinc powder was observed upon addition of sodium oleate or a mixture of the latter and water glass to the electrolyte. A technological process for preparing lead and zinc powders is proposed. Orig. art. has: 8 figures.

SUB CODE: 11,13/ SUBM DATE: 10Jan64/ ORIG REF: 012/ OTH REF: 001

Electrolysis /f

Card 2/2 blg

L 46843-66 EWT(m)/EWP(t)/ETI IJP(c) JD/HW/GD

ACC NR: AT6024971

(N)

SOURCE CODE: UR/0000/65/000/000/0144/0148

AUTHOR: Kudryavtsev, N. T.; Golovchanskaya, R. G.; Baraboshkina, N. K.

40

B+1

ORG: none

TITLE: Electrodeposition of a nickel-titanium alloy from hydrofluoboric acid electrolytes

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Zashchitnyye metallicheskiye i oksidnyye pokrytiya, korroziya metallov i issledovaniya v oblasti elektrokhimii (Protective metallic and oxide coatings, corrosion of metals, and studies in electrochemistry). Moscow, Nauka, 1965, 144-148

TOPIC TAGS: electrodeposition, nickel alloy, titanium alloy, metal coating, protection coating, corrosion resistance

ABSTRACT: Hydrofluoric and hydrofluoboric acid solutions of nickel and titanium salts were used for the codeposition of a nickel-titanium alloy. The alloys deposited from hydrofluoboric acid electrolytes contained about 6% Ti, and those from hydrofluoric acid electrolytes, 2-4% Ti. The quality of the deposits obtained from hydrofluoboric acid electrolytes was better. When the current density is increased, and also when the cathode and anode compartments are separated by a diaphragm in the hydrofluoboric acid electrolyte, the Ti content of the alloy increases to 10-15%, but the current efficiency decreases. As the electrolyte temperature rises, the Ti content of the alloy drops somewhat, apparently because of the corresponding change in the rate of discharge of nickel and titanium ions. The current efficiency decreases with ris-

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ACC NR: AT6024971

ing current density and increases with rising temperature, owing to a change in the alloy composition. On the average, the current efficiency of the alloy is 40-50%. A coating of Ni-Ti alloy was found to be more corrosion-resistant than a coating of pure nickel. Orig. art. has: 3 figures and 3 tables.

SUB CODE: 11,13/ SUBM DATE: 07Jul64/ ORIG REF: 002

Card 2/2 blg

L 38173-66 EWT(m)/EWP(t)/ETI IJP(c) JD/HW/JG

ACC NR: AP6021079

(A)

SOURCE CODE: UR/0365/66/002/002/0216/0220

AUTHOR: Kudryavtsev, N. T.; Potapov, I. I.; Mel'nikova, M. M.

14
B

ORG: Moscow Chemico-Technological Institute im. D. I. Mendeleev (Moskovskiy khimiko-tekhnologicheskii institut)

TITLE: Analysis of the electrolytic deposition of a Co-Cr alloy

SOURCE: Zashchita metallov, v. 2, no. 2, 1966, 216-220

TOPIC TAGS: electroplating, cobalt, chromium, optimum process, magnetic property, temperature dependence, current density, alloying, METAL COATING, ELECTROLYTIC DEPOSITION

ABSTRACT: The Cr content of Co-Cr alloy coatings, % electric current yield, coercive force, inductive saturation, residual inductance and coefficient of orthogonality were measured as functions of electrolyte composition, pH, temperature and current density in solutions of Cr- and Co sulfates + amino acetic acid. The conditions for obtaining good coatings of Co-Cr alloys (5-15% Cr) are given. It was established that some of the factors contributing to changes in the composition of the alloy also affect the magnetic properties. Additions of cobalt sulfate ranging from 0.25 to 1.0 g-equiv/l lowered the Cr and increased the Co content of the coatings. The electric current yield increased from 10 to 33% at 6 a/dm² and from 18 to 41% at 10 a/dm² for the same cobalt sulfate changes. Above 10 a/dm² the quality of the coatings was poor.

UDC: 621.357.7

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ACC NR: AP6021079

By increasing the temperature from 20 to 50°C, the % yield rose and the quality of the coatings improved, although the Cr content decreased from 10 to 3%. The lowering of pH from 2.5 to 1.5 dropped both the % yield and the Cr content. Alloy coatings, obtained under optimum electrolyzing conditions, had a low coercive force (20-50 oe) and a residual inductance of 5000-6000 gs. With increases in current density from 2 to 10 a/dm² and pH from 1.5 to 2.5 the coercive force dropped as a result of the increase in Cr content. At pH=2 the coefficient of orthogonality went through a maximum but increased with current density. The orthogonality of the hysteresis loop improved with increase in temperature from 20 to 50°C, while the coercive force went through a maximum at 40°C, probably due to a phase transformation in the coating. Orig. art. has: 7 figures.

SUB CODE: 11,14/

SUBM DATE: 22Jul65/

ORIG REF: 011/

OTH REF: 001

Card 2/2

vmb

I. 24592-66 EWT(m)/EWP(t) IJP(c) JD/JG

ACC NR: AP6012437

(N)

SOURCE CODE: UR/0364/65/001/012/1458/1461

AUTHOR: Nechayev, Ye. A.; Bek, R. Yu.; Kudryavtsev, N. T.

25
B

ORG: Moscow Chemical Engineering Institute imeni D. I. Mendeleev (Moskovskiy khimiko-tekhnologicheskii institut)

TITLE: Some characteristics of the process of electroplating silver on platinum

SOURCE: Elektrokhimiya, v. 1, no. 12, 1965, 1458-1461

18 27 27

TOPIC TAGS: silver, platinum, metal plating, electrolysis

ABSTRACT: The authors study the process of silverplating platinum to determine the cause for unsatisfactory quality in silver coatings on this metal and to find conditions for producing dense silver films at high current densities. The experiments were done in electrolytes with the following composition: Ag--0.25 N, NaCN--0.25-1.0 N, Na CO --0.5 N at $t = 25-30^{\circ}\text{C}$ and $i = 0.1-0.5 \text{ a/dm}^2$ without the application of alternating current, and $i = 0.1-1.5 \text{ a/dm}^2$ with the application of alternating current with a frequency of 50 cps and $i_{ac}/i_{dc} = 2.5$. Plating quality was studied under a microscope. On the basis of the experimental data, the following plating conditions are recommended for producing high quality silver coating on platinum: electrolyte composition: Ag--0.25 N, NaCN--0.5 N, Na_2CO_3 --0.5 N, $i < 1.5 \text{ a/dm}^2$ $t = 20-25^{\circ}$; con-

UDC: 621.357.7

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Cord 1/2

L 24592-66

ACC NR: AP6012437

ditions for application of alternating current: $i_{ac}/i_{dc} = 10-15$ in the first ten seconds of electrolysis and $i_{ac} = i_{dc} = 2.0-2.5$ through the rest of the plating process. Orig. art. has: 3 figures.

SUB CODE: 11/

SUBM DATE: 25Jan65/

ORIG REF: 002/

OTH REF: 002

Card 2/2 BK

NECHAYEV, Ye.A.; BEK, R.Yu.; KUDRYAVTSEV, N.T.

Electrodeposition of silver from complex electrolytes. Part 1:
Method of studying the kinetic parameters and capacity of the
double electrical layer in the process of silver electrodeposition.
Elektrokhimiya 1 no.11:1325-1331 N '65. (MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni
Mendeleeva i Institut fiziko-khimicheskikh osnov pererabotki
mineral'nogo syr'ya Sibirskogo otdeleniya AN SSSR.

NECHAYEV, Ye.A.; BEK, R.Yu.; KUDRYAVTSEV, N.T.

Process of silver electrodeposition from complex electrolytes.
Part 2: Relation between the structure of the deposit and
the capacity of the electric double layer in the electrolytic
silver plating from cyanide electrolytes. Elektrokhimia 1
no.12:1443-1448 D '65. (MIRA 19:1)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D.I.
Mendeleeva i Institut fiziko-khimicheskikh osnov pererabotki
mineral'nogo syr'ya Sibirskogo otdeleniya AN SSSR. Submitted
January 25, 1965.

KHUGLEKOV, S.S.; SINYAKOV, Yu.I.; KUDRYAVTSEV, N.T.

Diffusion control of thiourea consumption in a sulfate electrolyte
for copper plating. Elektrokhimiia 2 no.1:100-103 Ja '66.

(MIRA 19:1)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D.I. Mende-
leyeva. Submitted March 30, 1965.

KUDRYAVTSEV, N.T.; GOLOVCHANSKAYA, R.G.; BARABOSHKINA, N.K.;
KOSMODAMIANSKAYA, L.V.

Electrodeposition of titanium-iron and titanium-nickel alloys
from aqueous solutions. Zhur. fiz. khim. 39 no.4:870-876 Ap '65.
(MIRA 19:1)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.
Submitted Aug. 3, 1963.

KUDRYAVTSEV, N.T.; YARLYKOV, M.M.; MEL'NIKOVA, M.M.

Value of the PH cathode in the layer in electrolytes during
electrodeposition of nickel and iron. Zhur. prikl. khim. 38
no.3:545-555 Mr '65. (MIRA 18:11)

1. Submitted March 9, 1963.

L 42795-66 EWT(m)/EWP(t)/ETI IJP(c) JD/HW

ACC NR: AP6029074

SOURCE CODE: UR/0413/66/000/014/0131/0131

INVENTOR: Kudryavtsev, N. T.; Golovchanskaya, R. G.; Baraboshkina, N. K.

ORG: none

TITLE: Electrochemical deposition of nickel-titanium alloy. Class 48, No. 184092

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 131

TOPIC TAGS: ~~titanium~~ titanium alloy, electrolytic deposition, ~~dense coating~~, NICKEL ALLOY, METAL COATING

ABSTRACT: This Author Certificate introduces a method of deposition of nickel-titanium alloy at temperatures of 18—25C. In order to obtain a dense uniform coating tightly adhering to the metal base, the process is conducted at a current density of 5—10 a/dm² and a pH of 0.3—1.8 in an electrolyte containing 500 mg/l hydrofluoric acid, 0.4 mol/l nickel chloride, 0.8 mol/l metallic titanium, 0.50 mg/l lauryl sulfate, and 50 mg/l ethyl alcohol. [WW]

SUB CODE: 11/ SUBM DATE: 12Jul63/ATD PRESS: 5066

Cqrd 1/1 LC

UDC: 621.357.7:669.248'295

KARETNIKOV, C.S.; KUDRYAVTSEV, N.T.; GOLOVCHANSKAYA, R.G.; Prinsipala
uchastiya RASSUDOVA, N.S., dotsent

Study of alkaline solutions of sodium metatitanate in the
presence of glycerol. Zhur. fiz. khim. 39 no.9:2298-2300
S. '65. (MIRA 18:10)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni
D.I. Mendeleeva.

KRUGLIKOV, S.S.; KUDRYAVTSEV, N.T.; VOROB'YEVA, G.F.

Method of determining the concentration of leveling additives in
solutions for the electrolytic application of metallic coatings.
Zashch.met. 1 no.4:439-441 J1-Ag '65.

(MIRA 18:8)

1. Moskovskiy khimiko-tekhnologicheskii Institut imeni D.I.
Mendeleyeva.

KUDRYAVTSEV, N. V.

Kudryavtsev, N.V.

"A Pathomorphological Study of the Effectiveness of Hyperimmune Sera
in Experimental Brucellosis of Laboratory Animals." All-Union Inst
of Experimental Veterinary Medicine, Min Agriculture USSR. Moscow,
1955 (Dissertation for the degree of Candidate in Veterinary Science)

SO: Knizhnaya letopis' No. 27, 2 July 1955

KUDRYAVTSEV, N.V.

Incidence of "agylaan-yary" among young cattle in the Yakut A.S.S.R.
Uch.zap. IAGU no.6:25-35 '59. (MIRA 13:12)
(Yakutia--Cattle--Diseases and pests)

KUDRYAVTSEV, N. V.

"Flexure of a Round Plate with an Eccentric Hole by a Concentrated Load," Dokl.
AN SSSR, 53, No.2, 1946

YUZEFOV, V.I.; KUDRYAVTSEV, N.V.

New method for applying insulation to wire of rectangular
cross section. Suggestion by V.I. IUzefov and N.V. Kudriavtsev.
Prom.energ. 11 no.7:18 J1 '56. (MLRA 9:10)

(Electric insulators and insulation)
(Electric wire, Insulated)

KUDRYAVTSEV, Nikolay Vladimirovich; NEDYAKIN, Aleksey Ivanovich;
PANKOV, Yevgeniy Alekseyevich; YEFREMOV, G.V., red.;
SHLEPNIKOVA, Z.V., red.

[Operation and repair of ships on underwater wings] Eks-
pluatatsiya i remont sudov na podvodnykh kryl'kakh. Mo-
skva, Transport, 1964. 108 p. (17:6)

AM5006600 EWT(d)/EWT(m)/FA/EWA(d)/T-2/EWP(h)
BOOK EXPLOITATION

s/

Kudryavtsev, Nikolay Vladimirovich; Nedyakin, Aleksey Ivanovich; Pankov, Evgeniy Anatol'yevich 34

Maintenance and repair of hydrofoil boats (Ekspluatatsiya i remont sudov na podvodnykh kryli'yakh) Moscow, Izd-vo "Transport", 1964. 0100 p. illus., biblio. Errata slip inserted. 2,200 copies printed.

TOPIC TAGS: hydrofoil, Raketa, Meteor, Sputnik, water transportation, maintenance, framing, propeller, rudder diesel engine M-50, steering gear, propeller shafting, alignment,

PURPOSE AND COVERAGE: The book is intended for use by mechanics, ship's masters and crew members, and at repair and maintenance bases. It may also be useful as educational material for students in intermediate and higher educational institutions. The book deals with the care, maintenance, and repair of mechanical and electrical equipment on hydrofoil craft. It also covers repair work on the hull and the driving and steering gear and on the hydrofoil installation. The recommendations given in this book are based on experiences gained with the "Raketa" and "Meteor" hydrofoil craft, as well as the maintenance and repair of the M-50 Diesel engines.

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SUB CODE: MS

SUBMITTED: 06Apr64

NO REF SOV: 008

OTHER: 000

Card 3/3

KUDRYAVTSEV, N. YE.

The Committee on Stalin Prizes (of the Council of Ministers USSR, in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr. 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Sokolov, N. S.	"Elements in Farming"	Moscow Agricultural Academy
Yarkov, S. P.	(textbook)	imeni K. A. Timiryazev
Chizhevskiy, M. G.		
Cherkasov, A. A.		
Shestakov, A. G.		
Gulyakin, I. V.		
Peterburgskiy, A. V.		
Troitskiy, A. N.		
Luk'yanyuk, V. I.		
Savzdarg, E. E.		
Trofimovich, A. Ya.		
Kuznetsov, V. S.		
<u>Kudryavtsev, N. Ye.</u>		
Fronin, A. F.		
Alekhin, N. V.		
Sachli, S. N.		

SO: W-30604, 7 July 1954

ALEKHIN, N.V., dots., kand. sel'khoz. nauk; GEORGIYEVSKIY, I.S., dots., kand. tekhn. nauk; KUDRYAVTSEV, N.Ye., dots., kand. sel'khoz. nauk; OS'KIN, A.I., dots., kand. sel'khoz. nauk; PRONIN, A.F., dots., kand. sel'khoz. nauk; SACHLI, S.N., dots., kand. sel'khoz. nauk; DMITRIYEV, I.I., red.; TRUKHINA, O.N., tekhn. red.

[Manual on the adjustment of agricultural machines]
Spravochnik po regulirovкам sel'skokhoziaistvennykh mashin. [By] N.V.Alekhin i dr. Izd.2., perer. i dop. Moskva, Sel'khozizdat, 1963. 686 p. (MIRA 17:1)

GITALOV, Aleksandr Vasil'yevich, Geroy Sotsialisticheskogo Truda;
VESNA, Nikolay Mitrofanovich; GURKO, Vasilii Romanovich;
PASHEDKO, L.T., nauchnyy red.; KUDRYAVTSEV, N.Ye., nauchnyy
red.; SHALYT, N.A., red.; PERSON, M.N., tekhn. red.; TOKER,
A.M., tekhn. red.

[Over-all mechanization of growing and harvesting farm crops]
Kompleksnaya mekhanizatsiya vozdel'yvaniya i uborki sel'sko-
khoziaistvennykh kul'tur. Moskva, Proftekhizdat, 1962. 271 p.
(MIRA 16:2)

(Agricultural machinery)

KUDRYAVTSEV, Nikandr Yefimovich; SHALYT, N.A., red.

[Field manual on agricultural machines] Proizvodstvennyi
praktikum po sel'skokhoziaistvennym mashinam. Moskva,
Vysshiaia shkola, 1964. 281 p. (MIRA 17:6)

ROZENBERG, Yu.A.; BAGANOV, V.M.; KUDRYAVTSEV, O.A.

Surface smoothness in machining gray iron. Izv.TPI 85:249-259
'57. (MIRA 10:12) .

1. Predstavleno prof. doktorom tekhn.nauk A.M. Rozenbergom.
(Metal cutting) (Surfaces (Technology))

KUDRYAVTSEV, O. K.

FLIT, S. M. - st. nauchn. sotr. i POLYAKOV, A. A. - kand. tekhn. nauk i
KUDRYAVTSEV, O. K. + o. st. nauchn. sotr. i GUREVICH, L. V. - Kand. tekhn.
nauk KHRUNOV, N. P. - Kand. tekhn. nauk

Akademiya kommunal'nogo khozyaystva im. K. D. Pamyatnaya
Osnovnyye Meropriyatiya po Obespecheniyu Bezopasnosti Dvizheniya V Gorodakh
Page 79

SO: Collection of Annotations of Scientific Research Work on Construction, completed
in 1950.
Moscow, 1951

KUDRYAVTSEV, O.K.

BARKOVA, Ye.A.; KUDRYAVTSEV, O.K.; MARKOVNIKOV, V.L., redaktor; OTSCHENVA,
M.A., redaktor; KONYASHINA, A.D., tekhnicheskii redaktor

[Calculating the time of runs in city transportation] Raschet vre-
meni reisa na gorodskom transporte. Moskva, Izd-vo Ministerstva
kommunal'nogo khoziaistva RSFSR, 1955. 108 p. (MIRA 9:2)
(Traffic surveys)

KUDRYAVTSEV, O.

Graphic method for making up traffic timetables used by municipal transportation system. Zhil.-kom.khes.5 no.6:20-22 '55. (MLBA 9:1)

1.Starshiy nauchnyy sotrudnik Akademii kommunal'noye khesyaystva.
(Traffic engineering)

Kudryavtsev, O. K.

Name: KUDRYAVTSEV, O. K.

Dissertation: The link between speed and regularity of movement of urban transport

Degree: Cand Tech Sci

Defended at
Publication
Acad of Municipal Economy imeni K. D. Pamfilov

~~Defense~~ Date, Place: 1956, Moscow, Publishing House of Min Municipal Economy
RSFSR

Source: Knizhnaya Letopis', No 47, 1956

KUDRYATSEV, Orest Konstantinovich, BARKOVA, Yelena Aleksandrovna;
MARKOVNIKOV, V.L., redaktor; OTOCHEVA, M.A., redaktor izdatel'stva;
KONYASHINA, A., tekhnicheskiy redaktor

[Reference tables for traction computations in urban transportation]
Spravochnye tablitsy po tiagovym raschetam gorodskogo transporta.
Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1956.
149 p. (MLRA 10:3)

(Local transit)

KUDRYAVTSEV, O.K.

BARKOVA, Ye. A.; BLATNOV, M.D.; KUDRYAVTSEV, O.K.; SAMOYLOV, D.S.;
MINASYAN, Ye.A., redaktor, ~~SHOROV, D.M.~~; tekhnicheskiy redaktor

[Principles of the organization of the movement of city passenger
transportation; a practical manual] Osnovy organizatsii dvizheniya
gorodskogo passazhirskego transporta; metodicheskoe rukovodstvo.
Moskva, Izd-vo M-va kommun. khoz. RSFSR, 1956. 270 p. (MIRA 10:4)
(Local transit)

KUDRYAVTSEV, O., kand.tekhn.nauk.

The cost of passenger transportation and the operating speed of
traffic. Zhil.-kom. khoz. 7 no.8:19 '57. (MIRA 10:10)
(Street railways--Cost of operation) (Motor bus lines--Cost of operation)

KUDRYAVTSEV, O.K., kand. tekhn. nauk.

Planning a new street railway based on the old circumferential
railroad line. Ger. khoz. Mosk. 32 no.4:19-21 Ap '58. (MIRA 11:4)

1. Starshiy nauchnyy sotrudnik Akademii kommunal'nogo khozyaystva.
(Moscow—Street railways)

MERKULOV, Yefim Afanas'yevich; PETROV, Vyacheslav Konstantinovich [deceased];
SOSYANTS, Vasilii Georgiyevich; YUDIN, Vasilii Aleksandrovich;
Prinimali uchastiye: DUBROVIN, Ye.N.; SLAVUTSKIY, A.K.; BARKOVA,
Ye.A.; BLATNOV, M.D.; KUDRYAVTSEV, O.K.; SAMOYLOV, D.S.; FRIDLYAND,
A.G.. BRONSHTEYN, L.A., red.; RACHEVSKAYA, M.I., red.isd-va;
LELYUKHIN, A.A., tekhn.red.

[Urban transportation and street construction] Gorodskoi transport
i dorozhno-mostovoe khoziaistvo. Moskva, Izd-vo M-va kommun.khoz.
RSFSR, 1959. 473 p. (MIRA 12:8)

1. Sotrudniki Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova
(for Barkova, Blatnov, Kudryavtsev, Samoylov, Fridlyand).
(Transportation) (Streets)

KUDRYAVTSEV, O.K.

Studying the density of population in cities and suburbs. Vop.
geog. no.56:173-177 '62. (MIRA 15:7)
(Cities and towns)

KUDRYAVTSEV, O.K., kand.tekhn.nauk

The problem of building the Moscow subway system to serve future
needs. Gor. khoz. Mosk. 36 no.9:23-24 S '62. (MIRA 15:10)
(Moscow--Subways)

80592

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S/109/60/005/06/018/021
E140/E163

AUTHORS: Kudryavtsev, O.M., and Pruzhinina, V.I.

TITLE: Controlled Non-Linear Semiconductor Resistances²⁵

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 6,
pp 1006-1008 (USSR)

ABSTRACT: The principle of controlling the parameters of a non-linear semiconductor resistance using a transverse electric field permits the development of a number of function-conversion circuits distinguished by simplicity, reliability and stability as well as by low cost. Such devices may be used for phase discriminators, modulators, voltage stabilisers, corrective networks with variable parameters, controlled voltage dividers, multiplier and divider circuits, automatic gain controls, oscillator frequency controls, etc. The authors have worked on this subject since 1957. Polycrystalline silicon carbide was used for these experiments. The properties are relatively stable in a wide temperature interval (-60 +50 °C) at frequencies up to 20 kcs. Four-electrode, six-electrode, and other configurations are described.

Card
1/2

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E140/E163

Controlled Non-Linear Semiconductor Resistances

There are 5 figures, 1 table and 5 references, of
which 4 are Soviet and 1 is Czech.

Card 2/2

SUBMITTED: December 18, 1959

82851

S/105/60/000/009/003/003
B019/B054

9,3270

AUTHOR: Kudryavtsev, O. M. (Moscow)

TITLE: A Static Modulator With Controlled Nonlinear Semiconductor
Resistance 81

PERIODICAL: Elektrichestvo, 1960, No. 9, pp. 80-82

TEXT: In the present paper, the author investigates a static modulator which is based on the principle of a change in the active resistance of a semiconductor⁴⁵ under the action of a periodically changing electric field. By the use of the semiconductor the modulator has a symmetrical volt-ampere characteristic whereby the specific volume conductivity only depends on the electric field intensity. This property is relatively stable in the range of from -60 to +100°C at 20 kc/s. With its high input impedance of $0.8 \cdot 10^6$ ohms and more, this modulator is suited for the conversion of d.c. signals or slowly changing signals which are supplied by sources of high internal resistance. The scheme of a d.c. modulator is discussed with the aid of Fig.1a. An alternating voltage acts on the electrodes I - I of the

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Card 1/3

A Static Modulator With Controlled Nonlinear
Semiconductor Resistance

82851

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B019/B054

semiconductor; this voltage modulates the current flowing over II - II accordingly. Fig. 3 shows the output voltage of the modulator as a function of the input voltage at different loads. Further, the change in temperature of the surrounding medium between 20 and 80 °C is taken into account. The coefficient of voltage transmission $K_u = U_{out}/U_{in}$ is practically constant in this temperature range. Further, the author discusses the work of the modulator in the conversion of the input current into voltage. Here, the direct current generates a voltage drop in the semiconductor; Fig. 5 shows the output voltage as a function of the input current. Also here, a practically linear dependence can be established. At low frequencies the capacitance of the semiconductor from 2 to 3 micromicrofarads may be neglected. Thus, the modulator described seems well suitable for the conversion of signals from d.c. sources of high internal resistance. In this case, it has a small zero drift, a high transmission coefficient, and a good frequency characteristic. It can be used for phase discriminators, voltage stabilizers, automatic amplification regulators, multipliers, and divider devices. There are 5 figures and 1 Soviet reference.

Card 2/3

A Static Modulator With Controlled Nonlinear
Semiconductor Resistance

82851

S/105/60/000/009/003/003
B019/B054

SUBMITTED: January 4, 1960

4

Card 3/3

35322
S/103/62/023/002/009/015
D230/D301

9.3286 (1147, 1159)

AUTHORS: Kudryavtsev, O.M., and Lipman, R.A. (Moscow)

TITLE: Controlled non-linear resistance multiplier

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 2, 1962, 190 - 195

TEXT: The multiplier is based on the principle of automatically controlled transfer coefficient. The design of the device employs two quadripoles, whose transfer coefficients can be varied by means of a controlling voltage. In this case, the functional relation between the transmission coefficient and amplitude of the controlling voltage can be set arbitrarily, but it must remain identical for both quadripoles; the degree with which the last requirement is fulfilled determines finally the working accuracy of the multiplier. For the quadripole having varying transmission coefficients, a controlled non-linear semi-conductor resistance (c.n.s.r.) can be used having two pairs of electrodes placed in two mutually-perpendicular planes. Conduction between any one pair of electrodes varies within wide limits, depending on the amplitude of the controlling voltage

Card 1/2

Controlled non-linear resistance ...

S/103/62/023/002/009/015
D230/D301

applied to the second pair of electrodes. In order to ensure substantial improvement in the conductance variation of the c.n.s.r., the current density component in the sample determined by the characteristics of the controlled circuit should be sufficiently small compared with the current density, determined by the action of the controlling voltage; even a relatively small resistance coupling can cause leakage of noise current in the controlled circuit, the amplitude of this will be comparable to the useful signal. In order to eliminate this type of interference, alternating voltage for the control is used, its frequency being considerably higher than the highest signal frequency in the controlled circuit, the interference is then filtered out. In designing the multiplier two c.n.s.r.'s can be used with strictly identical control characteristics; this implies selective assembly of samples. Difficulties are experienced when the device is subjected to wide environmental operating conditions; this can be largely obviated by using a single c.n.s.r. having three pairs of electrodes placed in three mutually-perpendicular planes. There are 2 figures and 5 Soviet-bloc references.

SUBMITTED: April 10, 1961

Card 2/2

KUDRYAVTSEV, O. V.

Hellenic provinces of the Balcan Peninsula in the 2nd century Moskva, Akad. Nauk, 1954.
363 p.

L 20507-66 EWT(d)/EWT(1)/EWT(m)/EWP(h)/I-2 IT
ACC NR: AP6003291 SOURCE CODE: UR/0209/66/000/GOI/0045/0050

AUTHOR: Podol'nyy, V. (Colonel; Meritorious test pilot); Kudryavtsev, P. (Engineer; Lieutenant colonel); Khatuntsev, I. (Engineer; Lieutenant colonel)

ORG: none

TITLE: Unforeseen incidents on a helicopter

SOURCE: Aviatsiya kosmonavtika, no. 1, 1966, 45-50

TOPIC TACS: helicopter, helicopter rotor, flying training

ABSTRACT: The safe flying and landing of the Mi-6 helicopter with one or both engines cut off depends mainly on the flying techniques used. In order to maintain altitude after one engine has been cut off, the pilot must decrease rotor pitch 4—6 degrees in 1.5—2 sec and at the same time increase the power of the remaining engine. Horizontal flight can be maintained at speeds of 130—150 km/hr and at an altitude of approximately 1000 m with the rotor rpm at 80—82 % and only one engine operating. With the abrupt failure of one engine the pilot should use the control handle for both engines to decrease rotor pitch. If the pilot uses the handle for controlling only one engine, and he is not certain which engine malfunctioned, he may turn the wrong handle, thus losing too much time and possibly causing complete loss of control of the helicopter. For training purposes, flight with one engine is recommended at an altitude of 1000—1500 m and at a speed of 130—150 km/hr. One engine should be cut off

Card 1/2

L 20607-66

ACC NR: AP6003291

by closing a stopcock rather than by decreasing the supply of gas, since this causes vibration in the transmission. Landing on one engine should be at a horizontal flying speed of 130—140 km/hr and at a vertical speed of 2—3 m/sec. At an altitude of 5—6 m the horizontal speed should be decreased to 60—70 km/hr, with the pitch angle set at 8—10 degrees; in this way the helicopter will touch down on its main wheels, and then its nose will drop. The Mi-6 helicopter is equipped with an autorotation system and can make power-off landings. If this is done, the rotor pitch is first decreased to 1 degree at an altitude 1000 m; at an altitude of 2000 m the rotor pitch should be set at 4 degrees, and at an altitude of 3000 m it should be set at 5 degrees. At an altitude of 1000 m, with a gliding speed of 140 km/hr, normal take-off load, and 80—82 % rotor rpm (with both engines shut off), speed of descent will be 11 m/sec. With a gliding speed of 120 km/hr (without payload), the loss of altitude will be 10 m/sec; for the same load at a speed of 220 km/hr the loss in altitude is maximum and will be 17—18 m/sec. For a gliding speed of 200 km/hr, and with the rotor set at 15 degrees, the loss in altitude will increase by 2 m/sec. Landing with a gliding speed of 100 km/hr, the angle of descent will sharply decrease (by 26—27 degrees), thus making landing highly complicated. [WH]

SUB CODE: 01/ SUBM DATE: none/ ATD PRESS: 4226

Card

2/2

PODOL'NYI, V., polkovnik, zasluzhennyy letchik-ispytatel' SSSR; KUDRYAVTSEV,
P., inzh.-podpolkovnik; KHATUNTSEV, I., inzh.-podpolkovnik

Piloting a helicopter in special cases. Av. i kosm. no.1:45-50
Ja '66. (MIRA 19:1)

KUDRYAVTSEV, P.

Criticism of bourgeois falsifiers of "the new trend", 1920-1940.
Vestis Latv ak no.12:5-14 '60. (EEAI 10:9)

1. Akademiya nauk Latviyskoy SSR, Institut ekonomiki.

(Latvia--History)

VOLODIN, Yevgeniy Ivanovich; SNETKOV, Anatoliy Mikhaylovich; IDZON, Mikhail Fridmanovich; SOLOVEYCHIK, Ya.S., inzh., retsenzent; KUDRYAVTSEV, P.A., inzh., red.; BAZHENOV, D.V., red. izd-va; SOKOLOVA, T.F., tekhn.red.

[Automation and mechanization of control systems in the machinery industry; manual] Avtomatizatsiya i mekhanizatsiya sredstv kontrolya v mashinostroyeni; spravochnoe posobie. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1962. 215 p. (MIRA 15:3)
(Machinery industry) (Automatic control.)

KRYSIN, Anatoliy Mikhaylovich; NAUMOV, Ivan Zakharovich;
KUDRYAVTSEV, P.A., nauchn. red.; SAZIKOV, M.I., red.;
TOKER, A.M., tekhn. red.; PERSON, M.N., tekhn. red.

[Assemblyman] Slesar: mekhanosborochnykh rabot. Moskva,
Proftekhizdat, 1963. 324 p. (MIRA 16:12)
(Machine-shop practice)

SOSEDOV, P.O., direktor sovkhosa; KUDRYAVTSEV, P.F., starshiy veterinarnyy vrach; NOSKOV, A.I., kandidat veterinarnykh nauk.

Use of antibiotics. Veterinariia 33 no.8:78-79 Ag '56. (MIRA 9:9)

1.Sovkhoz "Petrovskeye", Ukhtomskogo rayona, Moskovskoy oblasti.
(Swine--Diseases and pests) (Antibiotics)

KUDRYAVTSEV, P. I., kand. filosofskikh nauk; GLASHKIN, Yu. I., starshiy
prepodavatel'

Creative contribution of the 21st Congress of the CPSU to the
development of Marxist-Lenin's theory. [Trudy] GIDUV no.23:5-28
'60. (MIRA 15:7)

(COMMUNISM)

KULRYAVTSEV, P.I., kand.filosof.nauk, red.; TOKAREVICH, K.N., prof..
red.; FRIDLYAND, G.I., prof., red.

[The 21st Congress of the Communist Party of the Soviet Union
and tasks in the development of Soviet medicine] XXI s"ezd
KPSS i zadachi razvitiia sovetskoi meditsiny. Leningrad, 1960.
105 p. (Leningradskii gos.ordena Lenina in-t usovershenstvovaniia
vrachei, vyp.23) (MIRA 14:2)

1. Leningrad. Gosudarstvennyy institut usovershenstvovaniya
vrachey.

(MEDICINE)

KUDRYAVTSEV, E.I.; VIBOKULOV, V.A., doktor tekhn. nauk,
retsenzent

[Residual welding stresses and the strength of welded
joints] Ostatochnye svarochnye napriazheniia i proch-
nost' soedinenii. Moskva, Mashinostroenie, 1964. 93 p.
(MIRA 17:8)

L 32255-65 EWT(m)/EWP(w)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b) MJW/JD/HM

ACCESSION NR: AP4049506

S/0135/64/000/011/0001/0004

AUTHORS: Kudryavtsev, P.I. (Engineer); Gel'man, A.S. (Doctor of technical sciences)

TITLE: The effect of mechanical inhomogeneity on the fatigue strength of weld joints

SOURCE: Svarochnoye proizvodstvo, no. 11, 1964, 1-4

TOPIC TAGS: weld joint, filler metal, parent metal, mechanical property, fatigue strength

ABSTRACT: The effect of variable stress on the strength of weld joints with appreciable inhomogeneity was investigated in 40Kh type steel serving as parent metal for welds with soft fillers and as a hard filler metal, and in St.3 type steel used as parent metal with hard fillers and as a soft filler metal. The fatigue strength of the two types of steel specimens was 35.5 kg/mm^2 and 19.5 kg/mm^2 respectively. All specimens were hardened and tempered at 840°C and 400°C . The conspicuous difference in the mechanical properties of a weld joint with a hard filler and soft parent metal did not affect the fatigue strength. In specimens

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with a soft layer, the strength of the filler metal was decisive whenever the thickness exceeded 0.75 of the 20 mm diameter of the specimens. A decrease in the relative filler thickness below a critical thickness enhanced the resistance to weld fatigue. Apparently, this effect resulted from the state of stress that expands throughout the filler metal. Surface machining had a beneficial effect on fatigue strength of specimens with a soft filler whatever its thickness. In specimens with a thin filler metal, the fatigue strength of the work-hardened filler approximated that of the parent metal. The findings of the authors hold for inhomogeneous weld joints without stress centers and it may be assumed that the presence of such centers would change the pattern of stress propagation. Orig. art. has: 8 figures and 1 table.

ASSOCIATION: TANITMASH

SUBMITTED: 00

DATE ACQ:

ENCL: 00

SUB CODE: MM

NR REF SOV: 006

OTHER: 000

Card 2/2

SOV/124-57-5-5735

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 95 (USSR)

AUTHOR: Kudryavtsev, P. I.

TITLE: On the Use of the Similarity Hypothesis and the Dimensional Theory in the Study of a Uniform Turbulent Flow (O primenenii gipotezy podobiya i teoriya razmernostey pri izuchenii ravnomernogo turbulentnogo potoka)

PERIODICAL: Tr. Novosibir. inzh.-stroit. in-ta, 1955, Vol 5, pp 3-58

ABSTRACT: The author undertakes a detailed analysis of the velocity-distribution and resistance-law equations associated with the semiempirical theories of Prandtl and Kármán. An attempt is made to allow for the effect of viscosity by resorting to a mean-velocity similarity hypothesis. The concept of similarity is examined for self-similar and non-self-similar conditions. As a result, the author evolves formulas containing new empirical constants. Bibliography: 21 references.
Ye. M. Minskiy

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82186

S/124/59/000/011/010/017
A005/A001

10.4000

Translation from: Referativnyy zhurnal, Mekhanika, 1959, No. 11, p. 138, # 13746

AUTHOR: Kudryavtsev, P.I.

TITLE: An Approximate Solution of the Problem of Velocity Distribution in a Turbulent Flow |

PERIODICAL: Tr. Novosibirsk. inzh.-stroit. in-ta, 1957, Vol. 6, pp. 39-51

TEXT: The author suggests the formula:

$$\varphi = 6.2 \lg (\eta + 0.5 \varphi - 0.79) + c_1$$

$$\left(\varphi = \frac{u}{u_*}, \quad \eta = \frac{u_* y}{\nu} \right)$$

for the velocity distribution in a uniform turbulent flow in tubes, which is obtained by simplifying the correlations derived earlier (Tr. Novosib. inzh.-stroit. in-ta, 1955, Vol. 5, pp. 3-58 - RZhMekh, 1957, No. 5, 5735). There u is the velocity at distance y from the tube wall, u_* is the dynamic velocity, ν is the kinematic liquid viscosity coefficient. In the author's opinion, this

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A005/A001

An Approximate Solution of the Problem of Velocity Distribution in a Turbulent Flow

formula taking into account the liquid viscosity effect agrees better , for small Reynolds numbers, with the experimental data obtained by Nikuradse and Gurzhiyenko than the Prandtl formula. The author recommends to take

$$\varphi = 4.25 + 6.16 \lg \eta$$

for large η values (for hydraulically smooth tubes).

A.D. Al'tshul'

✓

Card 2/2

KUDRYAVTSEV, P.I., prof., dr. tekhn. nauk

Calculating pipes and canals by the equivalent roughness method.
Sbor. nauch. trud. Dnepr. inzh.-stroi. inst. 18:3-32 '61
(MIRA 17:37)

Nonsteady movement of a fluid in open prismatic channels.
Ibid. :79-87

S/124/63/000/001/019/080
D234/D308

AUTHOR:

Kudryavstev, P.I.

TITLE:

Formulas for determining the resistance to the motion of a liquid in pipes.

PERIODICAL:

Referativnyy zhurnal, Mekhanika, no. 1, 1963, 55, abstract 13334 (Izv. vyssh. uchebn. zavedeniy. Str-vo i arkhitekt. 1962, no. 2, 71-73)

TEXT:

Starting with a previously obtained formula for the velocity profile in uniform turbulent flow in smooth pipes (P.I. Kudryavtsev, Tr. Novosib. inzh. stroit. in-ta, 1957, v. 6, 39-51-RZh-Mekh., 1959, no. 11, 13746), the author proposes a formula to determine the hydraulic friction coefficient λ of hydraulic smooth pipes in the form

$$\frac{1}{\sqrt{\lambda}} = 2.12 \lg \left(R\sqrt{\lambda} + \frac{100}{3\sqrt{\lambda}} \right) - 1.33$$

where R is the Reynold's number referred to the diameter of the pipe.
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Formulas for determining

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This formula does not practically differ from the well-known Prandtl-Nikuradze formula for the resistance of smooth pipes.

[Abstracter's note: Complete translation]

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44207

S/021/62/000/011/005/013
D251/D308

AUTHOR: Kudryavtsev, P. I.

TITLE: On the steady smoothly-changing motion of liquid in prismatic channels

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 11, 1962, 1441-1442

TEXT: The author proposes a more exact method of deriving the equations of motion for the above-named problem, in which it is assumed that the loss of pressure-head h_w depends not only on the distance s but also on the depth h . The equations

$$\frac{i_0 ds}{h_0} = \frac{\chi^2 - \bar{i}}{\chi^2 - 1} d\eta \quad (3)$$

is obtained as an exact result, where i is the inclination of the

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On the steady ...

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D251/D308

channel, h_0 is the normal depth, χ is the relative loss modulus, η is the relative depth, $j = \text{const}$. By taking $\eta = a_0 + a_1 \log \chi$ as a suitable approximating function, according to the approximate index dependence of S. A. Bakmetev, Eq. (3) is integrated. Comparison with Pavlov'sky's linear approximation leads to the more exact approximating function $\eta = a_0 + a_1 \log \chi + a_2 \chi$, which gives

$$\frac{i_0 L}{h_0} = \eta_2 - \eta_1 - (1 - j) [a_2 (\Pi_2 - \Pi_1) + a_1 (P_2 - P_1)] \quad (7)$$

where Π is Pavlov'sky's function and

$$\Pi = 1.151 \lg \frac{1 + \chi}{1 - \chi} \quad (8)$$

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$$P = \lg \frac{\chi}{\sqrt{\chi^2 - 1}}$$

(9)

Graphical and computational means of evaluating the parameters a_0 , a_1 , a_2 are indicated. The method is more precise than other approximate methods and leads to very simple results.

ASSOCIATION: Dnipropetrovs'kyi inzhenerno-budivelnyy instytut
(Dnipropetrovs'k Institute of Civil Engineering)

PRESENTED: by H. Y. Sukhomel, Academician

SUBMITTED: February 12, 1962

Card 3/3

KUDRYAVTSEV, P.I., Inzh.

Fatigue resistance of welded joints in high-strength cast iron.
Svar. proizv. 12:1-5 D '63. (MIRA 18:9)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i
mashinostroyeniya.

KUDRYAVTSEV, P.I., inzh.; GEL'MAN, A.S., doktor tekhn.nauk

Effect of the mechanical heterogeneity on the fatigue strength of welded joints. Svar.proizv. no.11:1-4 N '64.

(MIRA 18:1)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.

ACC NR:

AM5001715

Monograph

UR/

Kudryavtsev, P. I.

Residual welding stresses and the strength of welded joints (Ostatoch-
nyye svarochnyye napryazheniya i prochnost' soyedineniy) Moscow,
Izd-vo "Mashinostroyeniye", 1964. 93 p. illus., biblio. 4500
copies printed.

TOPIC TAGS: welding, residual welding stress, stress removal, weld,
weld strength

PURPOSE AND COVERAGE: This book is intended for engineering personnel
engaged in welding. It reviews in detail the causes of residual
welding stresses and methods of their determination. The effect of
residual stresses on the strength of welded joints and structures
is discussed. Methods of removing residual stresses and decreasing
their effect on the weld strength are described.

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UDC539.4.014.1:621.791

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Ch. II. Methods of determining residual welding stresses -- 14

Ch. III. Examples of the distribution of residual stresses in welded joints and structures -- 44

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SUB CODE: 13/ SUBM DATE: 17Mar64/ ORIG REF: 094/ OTH REF: 017/

Card 2/2

KUDRYAVTSEV, P.M.; TRANTIN, V.I.

Flushing of the cooling system of rectifiers with an inhibited acid. Elek. i tepl. tiaga no.5:16-17 My '63. (MIRA 16:8)

1. Nachal'nik 16-go uchastka energosnabzheniya Moskovskoy dorogi (for Kudryavtsev). 2. Nachal'nik tyagovoy podstantsii Krivandino (for Trantin).

(Electric current rectifiers—Cooling)